UTAH DEPARTMENT OF TRANSPORTATION

MINIMUM SAMPLING AND TESTING REQUIREMENTS

1. PURPOSE

This document complies with the Code of Federal Regulations 23 CFR 637B, which requires that each State transportation agency outline a frequency guide schedule for verification sampling and testing to provide a general guide to personnel responsible for the program.

2. SCOPE

The Minimum Sampling and Testing Requirements outlines the testing and documentation required for the materials acceptance program, whether those materials are accepted by sampling and testing, Manufacturer's Certificate of Compliance, Visual Inspection or other method used in the quality acceptance decision. Materials incorporated into the project shall meet the materials acceptance program.

3. REFERENCES

a. UDOT Manual of Instruction - Materials Part 8

b. AASHTO Standard Specifications for Transportation Materials

c. ASTM Standards

d. UDOT Procedure 08B-31

4. ACCEPTANCE GUIDELINES

Unless otherwise designated, the Resident Engineer is responsible for obtaining all documentation required for the materials acceptance decision. All documentation is to be retained in the project file. The Resident Engineer will certify the project and indicate the materials incorporated into the project were in conformance with the approved plans and specifications. Test reports or Manufacturer's Certificate of Compliance are used in the acceptance decision to allow incorporation of materials into the project, the Resident Engineer verifies documentation for partial and final payment.

Samples of any product / material may be taken at any time. Any product / material found to be out of specification shall be rejected and removed from the project site at the contractor's expense or be subject to applicable price adjustments. Items not listed in Section 1 (Tabulation of Acceptance Sampling and Testing) require appropriate testing or certificates of compliance as outlined in the Standard Specifications, Project Special Provisions, Supplemental Specifications, and change orders.

State supplied items are products received and stored by UDOT, and subsequently reserved for project use. These items include many traffic control and safety devices such as guardrails and lighting. The receipt of these items by both the state storage facility and the project site shall be based upon the manufacturer's certificate of compliance. The individual items shall also be inspected for damage or other verifiable discrepancies from the required specifications.

UDOT's acceptance sampling and testing program is summarized in Section 1. The necessary forms and reports for documentation and reporting test results are shown in Section 2 (Forms). Refer to UDOT Central Materials Division web page (http://www.udot.utah.gov/index.php/m=c/tid=645) for electronic versions of all necessary forms.

Manufacturer's Certificate of Compliance

UDOT may accept Manufacturer's Certificate of Compliance for most commercially fabricated materials, copies and faxes are acceptable if they are of the original source document that specifically ties the material to the particular

lot, etc., for which the certificate applies (see samples Section 2). A copy of the Manufacturer's Certificate of Compliance will accompany the item to the project site where they will be inspected for final acceptance. Rejection of products / materials that were certified as meeting specifications by the manufacturer may result in a suspension of the use of the supplier's products / materials in UDOT projects.

Pre-tested Materials

Commercially fabricated materials that require pre-testing will be certified by the Central Laboratory (refer to Section 1). A copy of the test report must accompany those items to the project site where they will be inspected for final acceptance.

Pre-approved Materials Through Quality Management Plans

Cement, fly ash, reinforcing steel, epoxy coating for reinforcing steel, performance graded (PG) asphalt binder, asphalt emulsion, hydrated lime and reinforcing steel galvanized coating sources will be pre-approved through the Central Material's Quality Management Plans listed in Section 5 of this document. See the UDOT Central Materials Division web page (http://www2.udot.utah.gov/index.php/m=c/tid=196) for a listing of pre-approved materials and Quality Management Plans. See Section 4 for supplier Quality Control testing and UDOT verification testing frequencies required to maintain status as a pre-approved source. Ready mix concrete and precast/prestressed concrete suppliers as well as concrete pumping contractors will be pre-qualified through the Central Materials Quality Management Plans and must follow acceptance testing and inspection frequencies listed in Section 1. The Resident Engineer will verify that the source or supplier has been pre-approved.

Acceptance Sampling and Testing on the Project

Unless otherwise designated, acceptance tests on the project are performed under the direction of the Resident Engineer by UDOT TTQP qualified personnel.

Materials such as soils, crushed aggregate, Hot Mix Asphalt, Portland cement concrete, etc. are accepted on the basis of testing and inspection at the time they are incorporated into the project. The samples are taken at the point of acceptance and compliance tests are performed to determine if the material is acceptable under the applicable section of the Standard Specifications.

Small Projects or Small Quantities of Material

Projects on which the quantities of borrow (including granular borrow and granular backfill borrow), untreated base course, and bituminous surfacing do not exceed 3,000 tons are considered small projects. These projects are sampled and tested at a lower frequency than regular projects.

On projects where small quantities of the above materials are placed in different locations, and not continuously, the lower sampling and testing frequency will apply, although the total tonnage of these materials on the project may exceed 3,000 tons. These lower frequencies will be noted in Section 1.

Very Small Quantities of Materials

Very small quantities of materials may be accepted without any sampling or testing as follows:

a. Acceptance on the basis of visual inspection. Acceptance is limited to only those materials being furnished from sources found satisfactory under normal sampling and testing procedures.

b. Acceptance on the basis of certification. A satisfactory certificate of compliance must be in the possession of the engineer prior to using these materials on the project.

Items to which the above methods of acceptance may be applied and the quantities that can be accepted are as follows:

a. Aggregates: Untreated base course - not to exceed 220 tons per day or 1,500 tons per project; borrow or granular borrow - not to exceed 330 tons per day or 1,500 tons per project.

b. Asphalt mixes - not to exceed 100 tons per day or 775 tons per project.

c. Asphalt binder, cutbacks and emulsions - not to exceed 10 tons per day or 45 tons per project.

d. Traffic Marking Paint - not to exceed 50 gallons per project, subject to approval of weight and analysis stated on the container.

e. Reinforcing steel and epoxy coated reinforcing steel - less than 4,000 pounds per project.

f. Pipe culverts - not to exceed 200 feet.

g. Portland cement concrete - not to exceed 8 cubic yards per placement for compressive strength test. However, one random strength test will be required for each 50 cubic yards accumulated. An acceptable air and slump test is required on each day's placement. For structures under the roadway, standard testing procedures apply.

h. Small quantities of items other than those noted above may be accepted upon approval by the engineer, providing the total value of the item, using the unit bid price, is less than $3000.00 or 0.5% of the total value of the project, whichever is less.

6. CONCLUSION

This program represents the minimum frequency for sampling and testing. More samples may be necessary at the beginning of a project or when low volumes of work are performed over long periods of time. Any time workmanship or products appear questionable additional tests should be performed to ensure compliance.